Idaho Naturalist news

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Happy New Year!

Sara Focht, Idaho Master Naturalist Program Coordinator

2011 was another amazing year for the Idaho Master Naturalist Program. Idaho Master Naturalists logged 10,704.50 hours of volunteer service toward conservation. Each and every hour from each and every Master Naturalist is valuable. Thank you to all Master Naturalists for your hard work and dedication. Together, you make a huge difference!

Portneuf Chapter-Pocatello	**769.75 hours**
Sagebrush-steppe Chapter-Boise	**1604.50 hours**
BYU Idaho Subchapter-Rexburg	**131.25 hours**
Upper Snake Chapter-Idaho Falls	**5294.75 hours**
McCall Chapter-McCall	**140.50 hours**
Henry's Fork Chapter-Island Park	**989.25 hours**
Treasure Valley CC Chapter –Oregon	**78.00 hours**
Wood River Valley Chapter-Ketchum	**537.25 hours**
Pend Oreille Chapter-Sandpoint	**1159.00 hours (established in April)**

Fourteen of the fifteen "100 hour award winners" in IDFG Region 6 were Master Naturalists! Back row: Ray Pollock (not a Master Naturalist), Master Naturalists Dave Godfrey, Alan Yonk, Tom Rahl, Ken Olson, Leslie Piscitella, Roger Piscitella, and Errol Mobley (Volunteer of the Year)! Front row: Master Naturalist Glenn DeVoe, IDFG volunteer coordinator James Brower, Master Naturalists Wendy Brockish, Theresa Lloyd, Mary Dolven, and Evan Tibbott. Not pictured, Master Naturalist Mike Melville and Collett Olson.

INSIDE THIS ISSUE:

The Idaho Naturalist News is a quarterly newsletter of the Idaho Master Naturalist Program.

Edited by Linda Kahn and Sara Focht, and David Smith

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IMNP Curriculum Gets a Facelift

Sara Focht, Idaho Master Naturalist Program Coordinator

Clella Steinke and Socks the cat work at editing the Idaho Master Naturalist Curriculum.

Clella Steinke is an Upper Snake River Master Naturalist with a mission. She has volunteered to edit the Idaho Master Naturalist curriculum. No small task! Unexpectedly, Clella emailed me and offered her proofing services. I could not refuse.

She began editing the 22 chapters in November of 2011 and has spent time, nearly every day, on the project. You would think, by the way she combs the chapters finding all the dangling participles and unclosed parentheses, that she might have been a copy editor in a previous life. No, this Eastern Idaho native was a speech-language pathologist! She has also dabbled in sewing, secretary work, dispatching, daycare directing, and restaurant ownership. She is a Master Gardener and enjoys golfing, fishing, traveling, reading, cooking, gardening, and watching the animals in her backyard-once an elk!

Now officially retired, Clella loves learning more about the places where she grew up and has lived most of her life. Editing the Master Naturalist Curriculum has not been Clella's favorite IMN volunteer job. She reserves that status for planting aspens at the Chester Wetlands and doing aspen surveys above the Snake River Canyon. She also enjoys learning how to staff the front desk of the IDFG office in Idaho Falls (perhaps the most difficult job at IDFG).

If you are ever out geocaching in Hell's Half Acre or another site and run into her, or are just reading a perfectly edited chapter of the Master Naturalist curriculum, you can thank Clella for all her hard work.

Volunteer Spotlight: Mary Van Fleet

Sara Focht, Idaho Master Naturalist Program Coordinator

From the left, Master Naturalists Val Zupsan (acting President), Bren Dismuke (former President), and Mary Van Fleet (founder, former president and current secretary/ treasurer) accept the Dare to Soar award in 2009. The Island Park News gives this award annually to people and organizations who have made substantial contributions to the community. Photo courtesy Elizabeth Laden of the Island Park News and Henry's Fork Master Naturalist).

On January 25, 2008, I received an email from Island Park resident Mary Van Fleet. Her email said, "I am interested in the Master Naturalist program. With Harriman State Park, the Nature Conservancy work in the area (Flat ranch and Centennial Valley, etc), and the Fish Hatchery nearby, plus the [state] park, I think we are in an ideal location. I would love to participate….how could we get a chapter in this community?"

After responding to Mary's email, she jumped right to the task. She tried to find someone local to start a chapter. With no luck, she decided to do it herself. She followed the steps to starting a chapter and helped work out the kinks that come with moving a program on paper to reality.

Mary says, "The best part about leading the chapter was discovering all the resources in the community that I could call on to help us put the classes together….I was absolutely amazed at the number of people willing to say 'yes' to someone they didn't know."

Besides forming and helping run the chapter, Mary has done stream restoration (willow planting); fish spawning; migratory waterfowl bird counts; vegetation surveys; small mammal trapping; aspen surveying; fish ladder counts; bear and noxious weed education; and road clean ups and track surveys. This adds up to nearly 400 hours over the last four summers.

Mary's work developing the first chapter paved the way for others to create chapters. Her leadership and organization continues to serve as a model for how other chapters function. Thank you, Mary!

Idaho's first Master Naturalist class led by Mary Van Fleet (pictured in front row on the far left). Photo courtesy, the Henry's Fork Chapter, 2008.

Closing a Natural Cycle

Pend Oreille Master Naturalist Chapter

Clem Yonker and Lori Getts, members of the Idaho Master Naturalist Pend Oreille Chapter, are Citizen Scientist volunteers at the IDFG Clark Fork Fish Hatchery. In June 2011, they helped load, transport, and release approximately two million Kokanee fry (out of the 10 million raised in the hatchery) in Granite Creek on the east side of Lake Pend Oreille. The small fish were netted and loaded into tanker trucks and driven overland to the release location.

On a cold and snowy day in late November, Lori and Clem returned to Granite Creek to collect eggs from the four year old adult Kokanee beginning their migration from the lake to the creek to spawn. They and 6 IDFG workers collected approximately 800,000 eggs from female Kokanee and fertilized the eggs from captured males. The fertilized eggs were then transported to the Clark Fork Fish Hatchery for incubation and rearing until their release back into Granite Creek in the summer of 2012. The migration will continue for about five weeks and about 10 million eggs will be collected. Not all the females were ready to spawn; their eggs were not yet developed enough, so the "green" females (as they are called) had to be returned to the creek for another day. Some of the fish are allowed to bypass the trap and continue their journey up the creek to spawn and die, completing their natural cycle.

Granite Creek is the most important Kokanee spawning stream in the Lake Pend Oreille system. Kokanee are an especially important food source for the larger predator fish species in the lake; however, over the past decade the Kokanee population has sharply declined due to the loss of habitat, varying lake levels, and the loss of eggs and young as a result of predation. Kokanee have been making a strong comeback with the help of IDFG and volunteers in the last few years. Millions of eggs are collected from the returning Kokanee at Granite Creek during November and December. The fertilized eggs are transported and raised at the Clark Fork Fish Hatchery until they are three to four inches in size, and released into Granite Creek and Lake Pend Oreille in early summer. According to IDFG, collecting the eggs and raising the young fish (fry) in the protection of the fish hatchery give them a much better chance of survival. The ultimate goal is to reestablish a viable Kokanee fishery in Lake Pend Oreille.

Top: Clem Yonker holding a Kokanee. Middle: Fertilized Kokanee eggs ready for transport to hatchery. Bottom: Hatchery workers in the fish trap preparing to harvest eggs. Photos by Lori Getts.

2011 Certifications

Congratulations to Idaho Master Naturalist who certified or re-certified in 2011. The chapters highlighted below submitted their certifications for this newsletter. Other chapters will submit their certifications as the year progresses. Look for more certified Master Naturalists in future newsletters.

Sagebrush-steppe Chapter

Joyce Harvey-Morgan
Sandy Sweet
Marlene Fritz
Laura Doty
Janice Berndt
Anna Taaffe
Alessa Cantaboni
Tom McGrath
Ron Lopez
Lola Abshire
Kevin Laughlin
Ken Coleman
Scott Prestel
Bob Ellis

Wood River Valley Chapter

Hadley DeBree
Johannes Thum
Kathryn "Keefer" Reynolds
Gail Wenger

McCall Chapter

Tony Sheldon
Connie Harris
Loretta McConnor

Upper Snake Chapter

Angela Stormberg
Dave Godfrey
Errol Mobley
Evan Tibbott
Leslie Piscitella
Linda Stanger
Mike Melville
Roger Piscitella
Therese Lloyd
Wendy Brockish
Glenn Devoe
Mary Dolven
Dianne Yonk
Alan Crockett
Ken Olson
Gloria Hahn
Tony Appelhans
Al Yonk
Collett Olson
Donna Whitham
Sue Braastad
Julie Britton-Wemple
Tom Rahl
Joyce Pole
Robert Anderl
Carol Martin
Robert Nitschke
Clella Steinke
Samuel Pole
Dale Claflin
Paulette Kirsch
Richard Wisner
Jerry Steed
Jean Taylor
Kyle Babbitt
Mark Whitham

Henry's Fork Chapter

Cathy Dufault
Jeff Dufault
Mary Van Fleet
Penny Freppon
Kari Archibald
Nancy Olson
Dalene Root
Bren Dismuke
Kim Schoppe
Nancy Williams
Lee King
Phyllis King
Jim Kemp
Kyle Babbitt
Kathleen Steven
Val Zupsan
Anne Marie Emery
Gary Gross
Sue McKenna
Ellen Kirch
Kathleen Boone
Karen Davidson
Beth Fleming
Nancy Willard
Dannye Hanrahan
Dennis Hanrahan

Henry's Fork Naturalists Recognized as Volunteers of the Year

Anne Marie Emery, Henry's Fork Master Naturalist and Member of the Board

The Henry's Fork Foundation (HFF) recognized Idaho Master Naturalist program participants Lee and Phyllis King as "Volunteers of the Year" at the organization's annual fundraising and award banquet held this past June.

The Henry's Fork Foundation is a non-profit, member-based organization located in the Upper Snake region that works to "preserve and protect" the fisheries, wildlife and aesthetics of the Henry's Fork Watershed. The Kings, whom are certified under the Island Park Chapter of the IMN program, have dedicated countless hours assisting HFF's research and restoration team with several on-the-ground projects throughout the watershed that include: fish salvage efforts in canal systems; Yellowstone Cutthroat trout distribution assessments; monitoring the Buffalo River fish ladder and traps; data organization and entry; willow plantings; roadside and river cleanup events; and helping with fundraising events.

"The HFF would not be able to accomplish the amount of work that it does in the watershed without volunteers such as the Kings," praises HFF's Conservation Technician and Education Program Coordinator Anne Marie Emery. Emery further praises the Kings with assisting HFF during the Island Park winter. "There aren't many paid professionals who will ski out to monitoring sites in -8 degree weather to dip their hands in ice cold water to measure trout!" remarks Emery. "The dedication of the Kings, and the entire Island Park Chapter, has allowed our organization to accomplish its research goals which in turn has made our watershed a better place."

Henry's Fork Foundation "Volunteers of the Year". Photo by Anne Marie Emery.

My Summer in the Sand

Work on Hagerman Fossil Beds Summer Crew and Research on Ash Beds

Sue Birnbaum, Idaho Master Naturalist, Sagebrush Steppe Chapter

When I first arrived in Idaho about 11 years ago, I visited the Hagerman Fossil Beds National Monument (HAFO) Visitors Center in Hagerman. I found paleontology intriguing, but my biggest interest was geology. Little did I know at that time that 10 years into the future, I would be working and living in Hagerman, collecting fossils, and learning about the basalt and sediments of the Glenns Ferry Formation that comprises the Hagerman area.

As Master Naturalists, our passion is learning about the natural world and teaching it to others. We love to be outside whether it's to educate kids about geology and rivers and fishes, monitor rare plants and big game, or to identify birds of prey. When I saw the job posting for a position on the HAFO summer field crew, I gathered my resume and references and seized the opportunity I had been dreaming of—to work outside and learn more about Idaho's geology. Luckily, I got the job. As with any new and unfamiliar endeavor, I didn't know what to expect. I knew that I would be looking for fossils in 95 degree heat and walking up and down steep hills through cheat grass, cataloging fossils and using a Geographic Information System to map the fossil sites. I didn't know, however, about the scorpions, rattlesnakes, Hagerman Horse rib fossils protruding from the ground, and that we would crawl on our bellies through hot sand in places such as Hell Hole and the Sahara blowout. I soon found myself and our crew collecting 3.5 million-year-old fossils such as horse vertebrae, turtle shell fragments, camel leg bones, and filling bags with sediment that held fragments of a mastodon molar. We took our discoveries from the field to the HAFO lab where Phil Gensler, the HAFO paleontologist, would challenge us to identify them.

I mentioned that we saw Hagerman Horse bones protruding from the sand; this is a site at HAFO known as the Hagerman Horse Quarry (HHQ) and is world-famous for containing the largest concentration of Hagerman Horse (*Equus simplicidens*) fossils. Although we did not collect fossils at this site, we did take visitors and the Junior Ranger Paleo Camp kids there to see the site. The first Hagerman Horse fossil was discovered in 1928 by a local rancher named Elmer Cook. He then contacted the U.S. Geological Survey. As a result, field crews from the Smithsonian Institution were soon excavating three quarry beds from 1929-1931 and 1934. Horse skeletons, along with fossils from other large vertebrates, including a peccary, camel, and antelope were also discovered. The HHQ, located in the northern part of HAFO, is known throughout the paleontological community and beyond as one of the six most important Hagerman Horse fossil localities in the world. Students and professors from various universities have visited this site to collect horse fossils. One of the reasons this site has been studied so extensively is the extraordinary condition in which the fossils were found. The horse skeletons were nearly articulated, which indicates their bodies were not transported at large distances after their deaths and the fossils did not show signs of predation. Initially, scientists theorized the horses died at a water hole, but this theory was revised when trough cross stratification (channel sands) were identified at the HHQ, resulting in a revised theory that indicated a single flood event killed a herd of horses. The latest scenario I found that describes the cause of the horses' deaths was that a drought brought the horses to a water hole where the horses died. After a short period, a moderate flood buried the horses' remains.

There are many fossil sites at HAFO; most are collected at roughly every two years. We found fossils from other vertebrates such as voles and beavers. We also found fossils from birds, snakes, frogs, salamanders, and fish. On our last day, while hiking out to the boat that took us across the Snake River to the field lab, we stumbled upon many Mastodon limb and rib bones.

We collected fossils from four different types of sites. Anthills, while being everyone's least favorite type of collection site, yielded many interesting small fossils, including fish vertebrae and rodent molars. We used visors with magnification lenses to find the fossils and then collected with tweezers. The protective mounds are created by the ants and include small pebbles as well as fossils. However, when the harvester ants discovered that you were disturbing their hill, this set them into frenzied activity; some of us suffered painful ant bites as a result. Hell Hole (named so because it was located deep within a ravine) was known as a *blowout* site. There are many blowout sites at HAFO that occur due to ancient channel sands. The sands and clay at these sites erode away, bringing a large variety of fossils to the surface. We found beaver vertebrae and bird leg bones, to name a few, at these sites. I found a beaver claw, an unusual fossil, at a blowout site.

Another type of fossil collection site is a *surface float*. It was at one of these sites I found the proximal bone of a horse toe. Fossils found at surface float locations tend to be isolated. They appear due to recent weathering and transport.

Collecting fossils at blowout site.

HAFO sponsors a Junior Ranger Paleo Camp in late July where kids between the ages of 6 and 12 years get to participate in activities and learn about paleontology. We created activities for the kids, including screen washing for fossils, dissecting owl pellets, and taking them to the Horse Quarry to discover fossils that we had set out for them to find. Kids also got to try their knowledge at identifying various animal skeletons. They also learned about the Glenns Ferry Formation, a series of sand and clay sediments of ancient Lake Idaho, which makes up the geology of the Hagerman area.

Fossils at HAFO are plentiful and not difficult to find. There were a few occasions when we would be sitting on our lunch break or talking to a fellow crewmember and someone would turn around and happen to see a fossil. A great discovery by a fellow crewmember, Brock Lipple, was a small portion of a mastodon tooth. These fossils are unusual because they tend to have a blue tint. We took the time at this site to shovel about 10 large bags of sediment and put them in our packs for the hike out. At the lab site, we spent hours screen washing this sediment for every small piece of the tooth we could find. One crewmember spent about 20 hours reconstructing the mastodon molar, fitting the pieces together like a puzzle. This tooth is now exhibited at the HAFO Visitor Center in Hagerman.

Some scientists have attempted to determine a more precise age for the fossils at HAFO by dating certain minerals from the volcanic ash deposits located in several stratigraphic layers. One study by Brueseke and Hart in 1999 determined a date of roughly 3.2 million years for the ash layer that lies about one meter above the horse fossils in the Horse Quarry. This study failed to determine a more precise date because of the dating method being used. Brock Lipple and I saw a unique opportunity for research and study in our Geosciences and Environmental Studies degree programs at Boise State University—to conduct Uranium/Lead dating for the Horse Quarry ash layer. We approached Dr. Mark Schmitz, Associate Professor in the Geosciences Department, who agreed to be our advisor. We collected ash samples from two sites at HAFO, including the Horse Quarry site. We spent last semester separating zircon minerals from our ash samples, and have applied Uranium/Lead geochronology to the zircons with laser ablation. We have just learned of the results of the laser ablation: The presence of many different zircons with ages that range from 4 million years to 100 million years old indicate that these zircons came from far-off distances, and possibly not from the volcano whose ash we collected for our samples. Therefore, the only definitive conclusion we can reach regarding the age of our ash samples is that they are younger than 3.95 million years (plus or minus .48 million years). While this information has added to the knowledge of the rocks and sediments that exist in the Hagerman area, it does not help us to identify more precisely the age of the site.

Despite the days of oppressive heat, scarce shade, brisk winds, ant bites and hot sand, I relished the opportunity to work outside, make new friends, learn more about Idaho, and have the opportunity to study two ash layers. The wildflowers in early summer colored the brown landscape and the view of the Snake River from my "office" in the HAFO sands was beautiful.

Photos in order of appearance:
1. Scorpion found at fossil site.
2. HAFO Field Crew at the Hagerman Horse Quarry, site of the Smithsonian Institution Excavation.
3. Collecting fossils at blowout site.
4. Fossils found on July 20, 2011. Note the proximal bone to a Hagerman Horse toe, lower left.
5. uvenile Mastodon molar after being pieced together by a HAFO summer field crewmember.
6. Dalea purpurea (Purple Prairie Clover)
7. rince's Plume
8. Sega Lilly

Parting Shots

Avian Haven

A display of birds
Bound in harmony of place
The web of wetlands

By Bob Ellis
Sagebrush-steppe Master Naturalist